

2003 Epidemiological Report on Tuberculosis

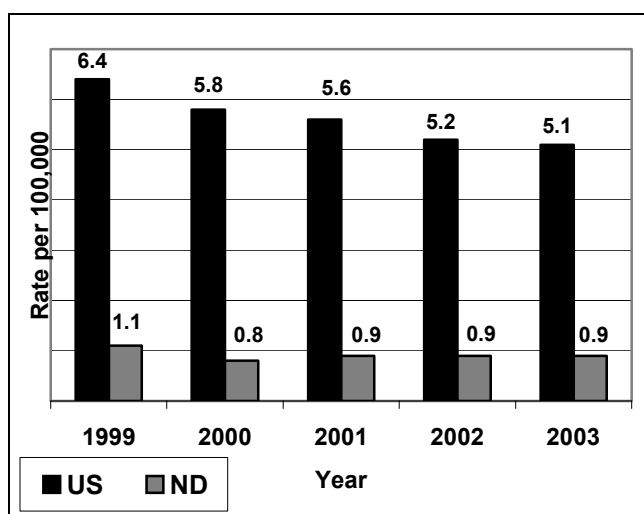


North Dakota Department of Health
Division of Disease Control
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TB in North Dakota – 2003

In 2003, six cases of tuberculosis (TB) were reported in North Dakota. With an incidence rate of 0.9 per 100,000, North Dakota continues to be considerably below the national rate (Figure 1).

Figure 1. United States and North Dakota Tuberculosis Disease Rates, 1999-2003



*U.S. TB disease rates were not available at the time of the report.

Two of the tuberculosis cases were pulmonary, three were extra-pulmonary and one was pulmonary/extra-pulmonary. Extra-pulmonary cases involved the following sites: (1) pericardium; (2) intestinal tract (ileocecum); (3) cervical lymph node and (4) lumbar spine.

The ages of the tuberculosis cases ranged from 21 to 78, with a median age of 65. Three cases were white, one was American Indian, one was black and one was Asian.

Risk factors associated with tuberculosis in 2003 included being a contact to active tuberculosis disease, belonging to a high-risk racial/ethnic group, being foreign-born, and having prior tuberculosis infection.

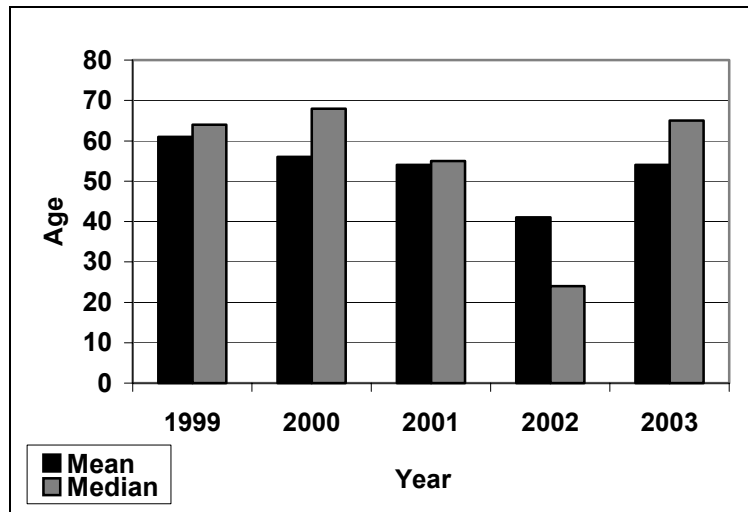
No tuberculosis-related deaths were reported in 2003.

TB in North Dakota – 1999-2003

From 1999 through 2003, 30 cases of tuberculosis were reported in North Dakota. The number of annual tuberculosis cases ranged from five to seven, resulting in an incidence rate of between 0.8 and 1.1 per 100,000.

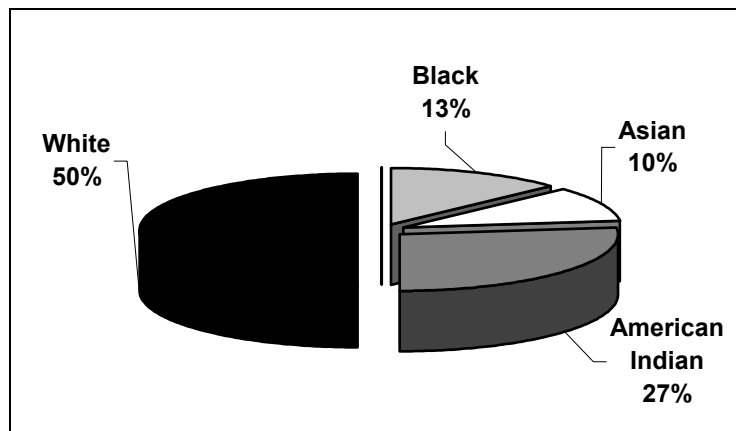
Of the 30 cases, 15 were pulmonary (50%), 13 were extra-pulmonary (43%) and two were pulmonary/extra-pulmonary (7%). Sixty-seven percent of the tuberculosis cases were age fifty and older. The mean and median ages of tuberculosis cases during the past five years were 49 and 56 respectively. As shown in Figure 2, the median age in 2002 was lower than in previous years. This is due to the diagnosis of disease in four adults between the ages of 21 to 25 years.

Figure 2. Tuberculosis by Age, North Dakota, 1999-2003



The race/ethnicity of tuberculosis cases during the past five years shows a disproportionately high number of the cases reported among minority populations. Cumulatively, American Indians, blacks and Asians account for only six percent of North Dakota's population but half of the states' reported TB cases.

Figure 3. Percentage of Tuberculosis Cases by Race/Ethnicity, North Dakota, 1999-2003



An increase in the state's racial/ethnic populations during the past few years has contributed to the increased number of tuberculosis cases reported in these racial/ethnic groups. While the number of foreign-born people in the state represents less than 2 percent of the state's total population, it increased 29 percent between 1990 and 2000.

Drug-Resistant Tuberculosis

Drug resistant tuberculosis (DR-TB) and multi-drug resistant tuberculosis (MDR-TB) present difficult problems for tuberculosis control. This is due to the complicated treatment regimen for the index case and the treatment of latent tuberculosis infection in contacts to the index case. The contact's treatment regimen must be individualized based on the index case's medication history and drug susceptibility studies.

With the increase in foreign-born populations entering the United States and North Dakota, the potential exists for an increase of DR-TB. During the past five years, however, there have been no cases of multidrug-resistant tuberculosis identified in North Dakota. Furthermore, only one case of single-drug resistance has been identified; an isolate in 2002 was resistant to streptomycin.

Latent Tuberculosis Infection

Latent TB infection (LTBI) occurs when individuals are infected with *M. tuberculosis* bacteria through direct exposure to active tuberculosis disease.

People with infection do not have active disease and are not infectious. Clinical findings of LTBI normally include a positive tuberculin skin test, absence of symptoms and a normal chest x-ray.

The number of tuberculosis infections reported in North Dakota has decreased since the year 2000. This is due, in part, to a decrease in the number of refugees entering North Dakota since 2001.

**Table 1. Reported Cases of LTBI
North Dakota, 1999-2003**

1999	2000	2001	2002	2003
450	572	368	304	312 ¹

¹Provisional data.